

Deluge of Dread

FLOODS

FEAR

FRACKING

FOSSIL FUELS

FLOATING TANKS

FACTS

**“It is the absence of facts that frightens people:
the gap you open, into which they pour their
fears, fantasies, desires.”
- Hilary Mantel, Wolf Hall**

**“Comments are free but facts are sacred.”
-C.P. Scott**

Overview

Oil and gas drilling has become a controversial environmental issue and an industrial activity under scrutiny like few others.

When an oil and gas producing region is hit by a natural disaster, in this case a flood, it increase concerns by an order of magnitude and raises challenges for regulators who are a key source of information.

Gathering and communicating accurate information during the event and in the days after is critical, yet difficult due to conditions on the ground.

Additionally, critics of oil and gas drilling are rapidly disseminating statements and photographs that increase concerns and create an even greater demand for information and clarity.

What is the best course of action for regulators attempting to provide information in such a scenario?

Limit speculation, provide context (when possible) and communicate what you know when you know it. Focus on the accuracy of your information, not that of others. Build trust through frequent distribution of factual information.

Overview

Walking through a case study

A description of the Front Range flood of 2013

Public concerns generated by floodwater impacts to oil and gas infrastructure

Media coverage of impacts

Efforts of state officials to communicate with sparse information in real time

Efforts to communication factually post-event

Bringing context to events

Key lessons from this experience

Colorado - Front Range Flood of Sept. 2013

- **Event duration: September 9-17**
- **Most extensive rainfall: September 11-12/September 15**
- **Fatalities: 8**
- **Evacuated: 18,000+**
- **Impact on property: 19,000 homes/businesses damaged
1,500+ destroyed**
- **Impact on infrastructure: 485 miles of road damaged or destroyed
50 bridges damaged or destroyed**
- **Record rainfall: Boulder saw a 24-hour total of 9.08 inches, far exceeding previous record of 4.80 inches**

Source: NOAA

2013 Flood Rainfall Totals



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Rainfall total accumulation over two days in various parts of the Front Range that were heavily affected by the 2013 Flood.

Photos



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A damaged bridge on Highway 34 over the Big Thompson River near Loveland, Colorado, on Wednesday, Sept. 18, 2013. (AP Photo/Chris Schneider)

Photos



COLORADO
Department of Natural Resources

This photo taken on Friday, Sept. 13, 2013, shows the foundation of a house being undercut in Lyons, Colorado. (AP Photo/Kenneth Wajda)

Photos



COLORADO
Department of Natural Resources

A road crew works on a stretch of highway washed out by flooding along the South Platte River in Weld County, Colorado near Greeley, Saturday, Sept. 14, 2013. (AP Photo/John Wark)

Photos



COLORADO
Department of Natural Resources

A group of trailers are smashed together at a storage site near Greeley, Colorado, Saturday, Sept. 14, 2013, as debris-filled rivers flooded into towns and farms. (AP Photo/John Wark)

Photos



COLORADO
Department of Natural Resources

A business is flooded by the overflowing St. Vrain River one mile east of Lyons, Colorado, following overnight flash flooding, Sept. 12, 2013. (AP Photo/Brennan Linsley)

Flood Attracts National Attention

The image is a screenshot of the USA Today website. At the top left, the USA Today logo is circled in red. Below it, the navigation menu includes NEWS, SPORTS, LIFE, MONEY, TECH, TRAVEL, OPINION, 54°, CROSSWORDS, ELECTIONS 2016, OLYMPICS, VIDEO, STOCKS, APPS, and MORE. The main headline reads "'Biblical' rains trigger flooding that kills 3 in Colo.", with the word "Biblical" circled in red. Below the headline is a video player showing a flooded road with a car partially submerged. The video title is "Colorado town cut off by flood waters". Below the video, a caption reads: "Flash flooding in Colorado has left three people dead, and widespread high waters are keeping search and rescue teams from reaching stranded residents and motorists in Boulder and nearby mountain communities. (Sept. 12) AP". The byline is "Trevor Hughes and William M. Welch, U.S.A. TODAY" dated "1:34 a.m. EDT September 13, 2013". Below the byline is a sub-headline: "State bracing for more rains, flooding through weekend". To the right of the sub-headline is a JCPenney advertisement for a hat. At the bottom left of the article, there is a small photo and a caption: "(Photo: Cliff Grassmick, Daily Camera, via AP)".

BOULDER, Colo. — Massive flash flooding along Colorado's picturesque Front Range mountains, triggered by what the National Weather Service termed "biblical rainfall amounts," killed at least three people Thursday, cut off small towns and forced countless residents to scramble for high ground.



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<http://www.usatoday.com/story/weather/2013/09/12/boulder-colorado-flash-floods/2802833/>

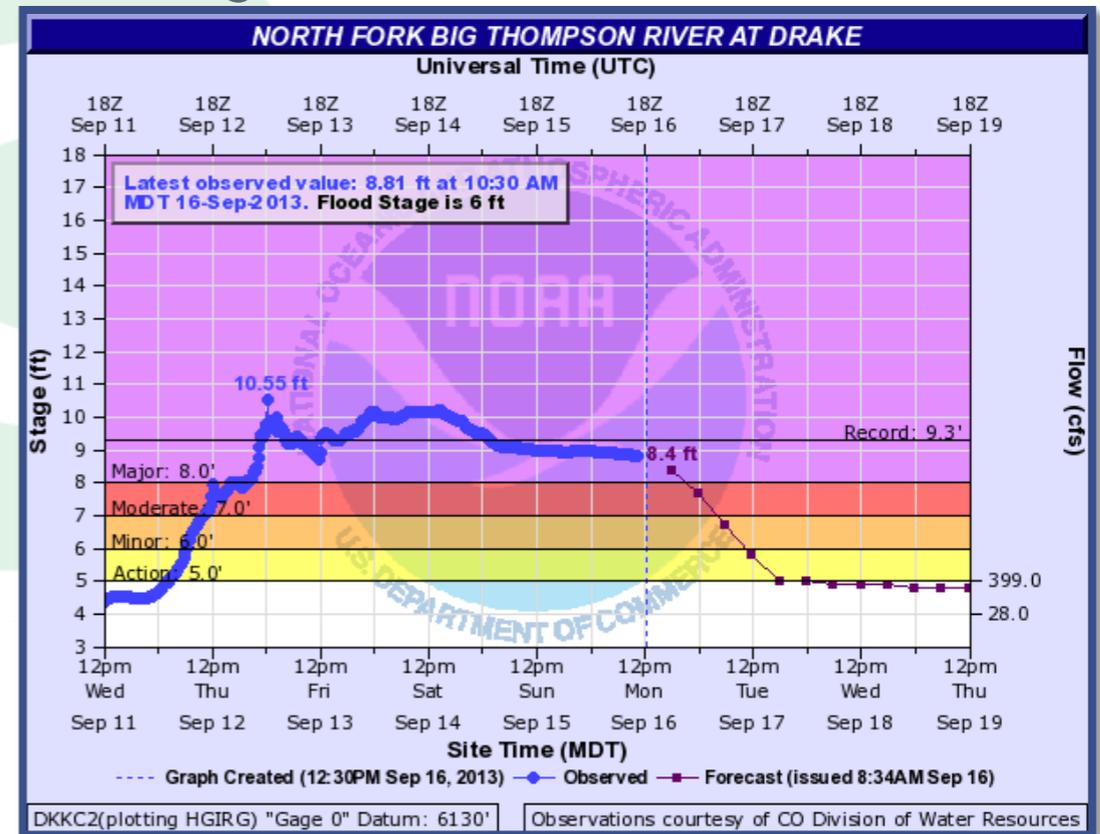
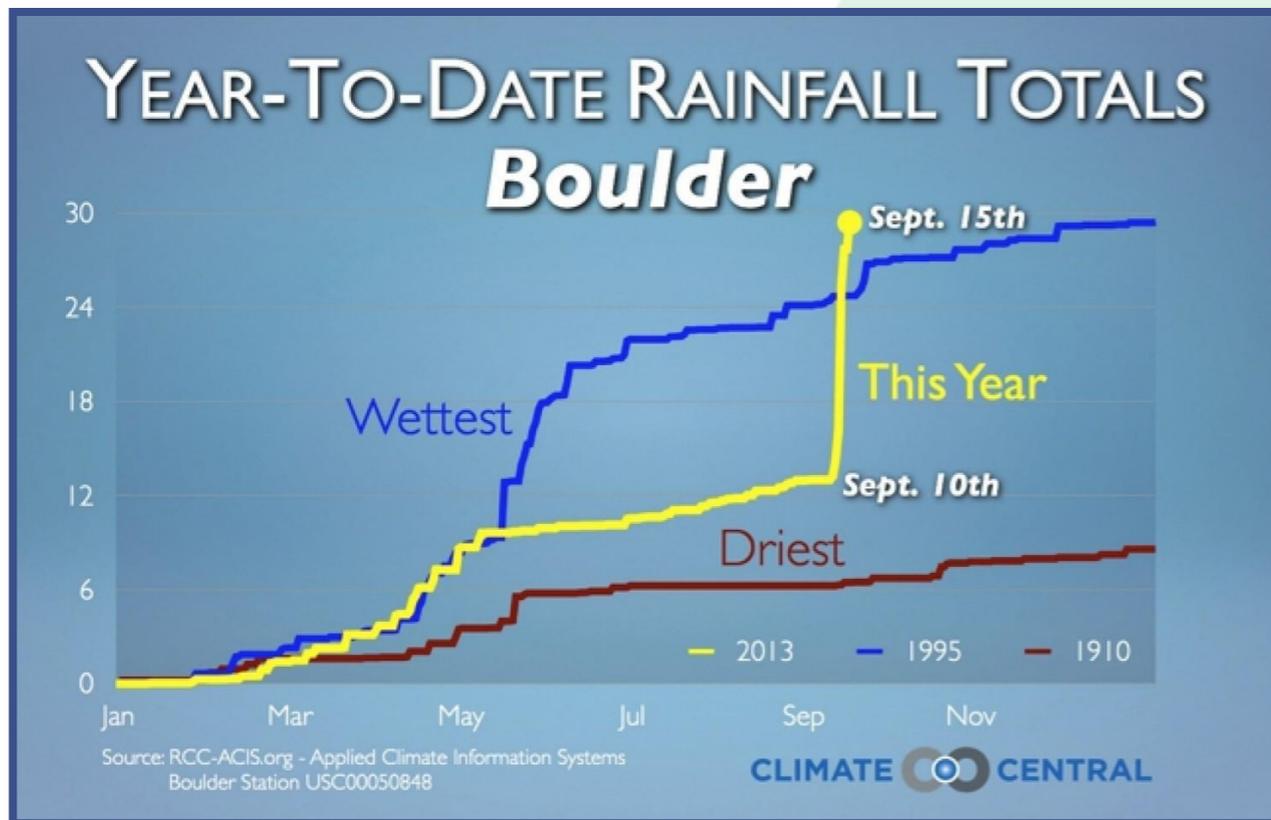
“Biblical” Flood by the Numbers

9.08 inches of rain that fell between 6 p.m. Mountain Time Wednesday and Thursday in Boulder, shattering its highest previous 24-hour rainfall total.

17.16 inches of rain in Boulder in a week.

30.12 inches of rain in Boulder this year, now it’s wettest year on record, with 3.5 months still to go.

Published September 16th, 2013/Washington Post



60 hours Big Thompson River exceeded record flood stage

Photos - Oil and Gas



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An oil and gas location near Greeley, Colorado, surrounded by water, Friday, Sept. 13, 2013. (AP Photo/Colorado Heli-Ops, Dennis Pierce)

Photos - Oil and Gas



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Oil and gas location covered in muck

Photos - Oil and Gas



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Floodwaters made child's play out tanks and other infrastructure

Photos - Oil and Gas



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COGCC rules require all equipment in geological hazard and floodplain areas to be anchored to resist flotation, collapse, lateral movement or subsidence. Force of buoyancy defeated even well anchored buried tanks.

Photos - Oil and Gas



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This photo appeared on page A1 of the Denver Post as an illustration of oil spills related to flooding. Both the operator and COGCC field staff verified that this was standing water in scours left by the flood waters. Denver Post later issued a correction.

Denver Post - Initial Days of Flood Coverage

2013 COLORADO FLOODS

Colorado floods: Four dead, hundreds rescued, thousands homeless

By Kieran Nicholson, Kristen Browning-Blas and Bruce Finley

The Denver Post

POSTED: 09/13/2013 07:55:32 AM MDT

UPDATED: 09/14/2013 09:39:28 AM MDT

09/13/2013

10 COMMENTS



A home was swept off its foundation and collecting into the overflowing Big Thompson River on Saturday morning, September 14, 2013. (Andy Cross, The Denver Post)

Colorado Flood: Rescue efforts ongoing for hundreds of people still unaccounted for; death toll rises

By Kirk Mitchell

The Denver Post

POSTED: 09/14/2013 09:37:49 AM MDT

UPDATED: 09/22/2013 05:17:24 PM MDT

09/14/2013

7 COMMENTS

WEATHER NEWS

Flood emergency in Boulder County; 1 person killed, streets impassable

The Denver Post

POSTED: 09/11/2013 05:08:08 PM MDT

UPDATED: 06/24/2014 12:17:35 PM MDT

09/11/2013

10 COMMENTS



Above: A Jamestown evacuee is helped off a helicopter at Boulder Municipal Airport. (Andy Cross, The Denver Post)

Industry Critics Call Attention to Spills

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IS THERE A MEDIA BLACKOUT ON THE FRACKING FLOOD DISASTER IN COLORADO?

September 15, 2013 By TXsharon



Together we can make the world a frack-free place.

Sign up to receive my posts in your inbox.

first name

email

SIGN ME UP!

STALK TXSHARON



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This was an interesting development during the floods, as some activists pressured media to highlight impacts by asserting a "blackout" of coverage.

<http://www.texassharon.com/2013/09/15/is-there-a-media-blackout-on-the-fracking-flood-disaster-in-colorado/>

Denver Post Oil & Gas Coverage and Headlines

DENVER AND THE WEST

Colorado and industry working to assess damage in flooded oil fields

By Mark Jaffe and Austin Briggs
The Denver Post

09/16/2013

POSTED: 09/16/2013 01:54:05 PM MDT | UPDATED: 3 YEARS AGO

36 COMMENTS

DENVER AND THE WEST

Colorado floods: 1,900 oil and gas wells shut as crews check damage

By Mark Jaffe
The Denver Post

09/17/2013

POSTED: 09/17/2013 04:20:33 PM MDT | UPDATED: 3 YEARS AGO

2 COMMENTS

DENVER AND THE WEST

5,250 gallons of oil spills into South Platte River

By Bruce Finley and Ryan Parker
The Denver Post

09/18/2013 @ 6:50pm

POSTED: 09/18/2013 06:49:13 PM MDT | UPDATED: 3 YEARS AGO

85 COMMENTS

5,000 gallons of oil spill into flooded S. Platte

The Associated Press

POSTED: 09/18/2013 07:45:17 PM MDT
UPDATED: 09/18/2013 07:45:18 PM MDT

09/18/2013 @ 7:45pm

ADD A COMMENT

Colorado flooding triggers oil spills, shutdowns

By COLLEEN SLEVIN and MATTHEW BROWN Associated Press

09/19/2013 @ 11:55AM

POSTED: 09/19/2013 11:56:33 AM MDT | UPDATED: 3 YEARS AGO

ADD A COM

ENVIRONMENT

State now tracking 10 oil and gas spills in Colorado flood zones

By Mark Jaffe and Bruce Finley
The Denver Post

09/19/2013 @ 12:08pm

POSTED: 09/19/2013 12:08:20 PM MDT | UPDATED: 3 YEARS AGO

164 COMMENTS



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Industry Critics Highlight Their Role

Media responds, state and industry scramble in wake of flood photos

September 17, 2013

Colorado, foods, oil & gas industry



WELD COUNTY, CO. – SEPTEMBER 16: A drilling derrick near Greeley stands in land flooded by the South Platte River. Aerial photographs of the Platte River flooding cities and farms in Weld County Colorado. [Photo By Tim Rasmussen/The Denver Post]

ATTENTION: If you know the location of this well pad, call Tish Schuller at COGA.

East Boulder County United (EBCU) led the charge, fueled by Cliff Willmeng's photos and videos. They activated hundreds of environmental activists up and down the Front Range and across Colorado and the country, and we pushed dozens of photos through blogs and social media sites to get the mainstream media's attention to the unfolding environmental disaster in the gas fields.

Congratulations — we succeeded.

Under pressure from environmental groups on Monday, TV and newspaper outlets plastered state agencies and industry reps with questions about the flooding impacts in the gasfields. COGA's Tish Schuller's face is all over the Denver news as the industry and state agencies scramble to get a handle on the damage to the gasfields – and their image.

“Under pressure from environmental groups on Monday, TV and newspaper outlets plastered state agencies and industry reps with questions about the flooding impacts in the gasfields. COGA's Tish Schuller's face is all over the Denver news as the industry and state agencies scramble to get a handle on the damage to the gasfields - and their image.” - Peggy Tibbetts, From the Styx



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<https://fromthestyx.wordpress.com/2013/09/17/media-responds-state-and-industry-scramble-in-wake-of-flood-photos/>

Industry Critics Speak Out

FrackFree Colorado: “Oil and fracking chemicals are polluting our water, soil and air. In the wake of this public health disaster, we the Concerned Citizens of Colorado call for ... [a]n emergency moratorium on all new well permits in Colorado [and] a plan to move immediately to bountiful, benign energy sources, such as wind and solar.” (9/17/2013)

Earthworks: “Please sign this PETITION to enact an immediate moratorium on fracking in Colorado ... We need the national news stations to go cover the environmental disaster that’s happening in Colorado right now.” (9/15/2013)

"We are going to have dozens, if not hundreds, of toxic sites," he said, "and they've got to be cleaned up." - Wes Wilson, Be the Change

East Boulder County United: “This is washing across agricultural land and into the waterways. Now we have to discuss what type of exposure the human population is going to have to suffer through.” (9/15/2013)

Industry Critics Focus on Spills



The screenshot shows the Environment Colorado website with a news release titled "Floods Exacerbate Damage of Fracking in Colorado". The page includes a navigation bar with "SIGN UP", "ABOUT US", "ISSUES", "NEWS", "ACTION", "JOBS", and "DONATE". The news release text discusses the impact of flooding on fracking infrastructure and water quality. A quote from Lindsey Wilson is highlighted in a blue box, and a larger quote is highlighted in a white box with a blue border. A black arrow points from the smaller quote to the larger one.

ENVIRONMENT COLORADO

SIGN UP ABOUT US ISSUES NEWS ACTION JOBS DONATE

News Release

Floods Exacerbate Damage of Fracking in Colorado

Contact
Lindsey Wilson,
Environment Colorado

For Immediate Release
Monday, September 23, 2013

Denver – As floodwaters continue to rage across the Front Range, our first thoughts are with the victims and their families. And to add insult to injury, Coloradans now have reason to be concerned about their water quality. Oil and gas industry infrastructure in the region has been severely compromised. Toxic wastewater tanks have been spotted floating in the floodwaters, pipelines are broken and sagging, and the state is now tracking several oil and gas spills.

"We were concerned about fracking before the flooding," said Lindsey Wilson, field associate with Environment Colorado. "But now, oil and gas spilling into the floodwaters, contaminating drinking water, is an added exclamation point to the long list of dangers that fracking has brought to Colorado."

The largest spill occurred on Wednesday when about 5,225 gallons of crude oil flowed into the South Platte River near Milliken. Nearly 2 million residents of Denver rely on the South Platte for their drinking water and just over 70 percent of Coloradans rely on the South Platte as their main water source.

"Toxic chemicals, such as cancer-causing benzene, have mixed with floodwaters posing a severe public health hazard," said Wilson. "While we do not know the full extent of the contamination, we know that thousands of Coloradans' drinking water could be affected."

The oil and gas industry is currently exempt from some key provisions of our nation's bedrock environmental laws such as the Safe Drinking Water Act and our nation's hazardous waste law. The thousands of gallons of drilling waste mixing with floodwaters reinforces the need to close these toxic loopholes that leave communities vulnerable to water contamination.

Environment Colorado will be releasing a report Oct. 3, entitled "Fracking by the Numbers," which will quantify key measures of fracking threats to our environment and health.

NEWS RELEASE PROGRAM

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PROTECT COLO

GLOBAL WARM

A MILLION

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“The largest spill occurred on Wednesday when about 5,225 gallons of crude oil flowed into the South Platte River near Milliken. Nearly 2 million residents of Denver rely on the South Platte for their drinking water and just over 70 percent of Coloradans rely on the South Platte as their main water source.” -Lindsey Wilson (9/23/2013)



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<http://www.environmentcolorado.org/news/coe/floods-exacerbate-damage-fracking-colorado>

National/International Media Attention

SEARCH

The New York Times

U.S.

After the Floods in Colorado, a Deluge of Worry About Leaking Oil

By JACK HEALY SEPT. 26, 2013



Oil storage tanks toppled by floodwaters in Weld County, Colo. Images of flooded tanks and oil wells created the impression of an environmental calamity. Rick Wilking/Reuters

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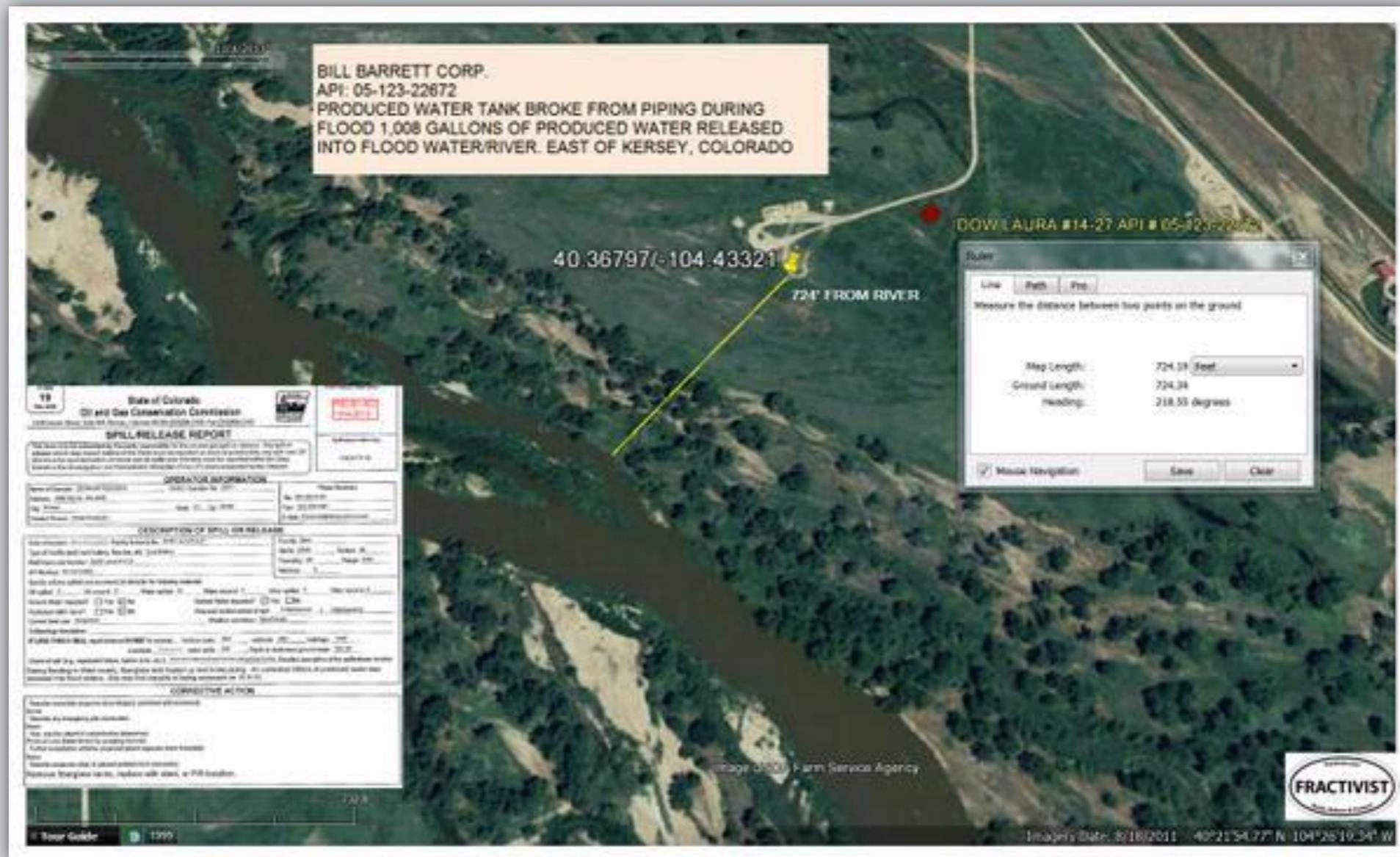
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http://www.nytimes.com/2013/09/27/us/after-the-floods-a-deluge-of-worry-about-oil.html?_r=0

Continued Scrutiny from Industry Critics

[FRACTIVIST @fractivist 4 Oct 2013](#)

BILL BARRETT CORP SPILLS 1,008 GAL OF PRODUCED WATER (TOXIC?) IMPACTS SURFACE WATER | IMAGE [#COFLOOD](#) [#FRACKING](#)



Continued Scrutiny from Industry Critics

Fractivist.org Blog Post:

Did COGA's Tisha Schuller Lie to the Public about Shutting in all Oil and Gas Wells in the Flood Plain? - October 26, 2013

Todd Hartman of the COGCC said it best: 'We simply could not get to all of the affected oil and gas wellpads because they were under water.' This is precisely how the state and industry has failed. Oil & gas wells should not be placed in areas where you cannot get to them to prevent adverse impacts. **YOU HAVE FAILED COGA AND COGCC!**

We cannot trust COGA as official COGCC data proves that they are not doing what they say.

“Fractivist” on Twitter

[FRACTIVIST @fractivist 11 Oct 2013](#)

'The only promise the oil and gas industry will give you is a lie' [#fracking #coflood](#)

[FRACTIVIST @fractivist 5 Oct 2013](#)

Yes, this is where I RIPPED the state and industry for their epic [#fracking](#) flood failures. [#coflood](#)
[http://www.kdnk.org/upload/ISSUEoct2013.mp3 ...](http://www.kdnk.org/upload/ISSUEoct2013.mp3)

Congress Weighs In

The sheer volume of the flooding, which forced the industry to shut in more than 1,900 wells, has Colorado Rep. Jared Polis (D) concerned about the potential environmental consequences of leaks and spills.

Polis wrote in a three-paragraph [letter](#) to Matt Lepore, the COGCC's director, that "many constituents have contacted me about oil and gas facilities that have been overwhelmed with floodwater and are now leaking near homes and farms"

As a result, Polis wrote, "I am concerned about possible environmental contamination in areas around flooded oil and gas operations," and he implored Lepore's COGCC to "call in additional field inspectors and reclamation specialists and other temporary help from other states or the federal government."

"Please let me know if I am able to assist the Colorado Oil and Gas Conservation Commission to resolve this ongoing contamination issue," Polis wrote.

(E & E, Sept. 20)

Communication From Industry

September 18, Anadarko said: "To date, we are aware of two tank batteries that were damaged by flood waters, and have associated light-oil releases. The releases occurred in flood waters associated with the South Platte River and the St. Vrain River, and we have reported them to the Colorado Oil and Gas Conservation Commission, the National Response Center, the U.S. Environmental Protection Agency and the Colorado Department of Public Health and Environment.

"We are actively working under the oversight of these agencies to contain and clean up the releases to the greatest extent possible. We will continue to provide additional information as appropriate."

September 19: The Anadarko tank moorings held, company spokesman John Christiansen said, but strong waters and heavy debris appeared to have cracked pipes and manifolds, allowing the condensate to escape.

Anadarko was able to get absorbent booms and a vacuum truck to the Milliken site and collect about 40 barrels' worth of the 165 that had spilled, Christiansen said.

But floodwaters kept crews from reaching the tanks on the St. Vrain quickly. "By the time we got there, they were empty," he said

September 19: Pictures of flooded well and drilling sites and damaged or floating tanks have been appearing on several social-media sites.

"We've seen the pictures but don't know the locations," Schuller said. "If people provide the locations, we will check them."

Communication From Industry

Twitter Q&A: COGA Oil & Gas Flood Ops & Response

Tisha Schuller, the CEO of the Colorado Oil & Gas Association hosted a live Twitter chat Q&A, Tuesday, Sept. 17 regarding the oil and gas industry response to the Colorado Flood

by  KUNC 3 years ago 12 Views

 **Tisha Schuller**
@tishaschuller [Follow](#)

.@FossilFuels70 No major impacts; all wells in flood areas shut in. 24-hour-per-day monitoring and response. #COGAResponds

2:03 PM - 17 Sep 2013

  3 

 **Tisha Schuller**
@tishaschuller [Follow](#)

Seen concerning pix about #oilandgas? Send a location so we can provide timely info & response. Info@coga.org #boulderflood #coflood

3:09 PM - 16 Sep 2013

  5 

 **Tisha Schuller**
@tishaschuller [Follow](#)

There are no known threats to life and health from #oilandgas operations in #coflood. @FossilFuels70 #COGAResponds

2:06 PM - 17 Sep 2013

  3 

 **Ashley Gapter**
@acgapter [Follow](#)

There pics of tanks flipped on their side from the #coflood even if the well is shut in are there concerns about tanks? #cogaresponds

2:09 PM - 17 Sep 2013

  1 



 **Tisha Schuller**
@tishaschuller [Follow](#)

Tanks on sides and in water can still have integrity. No reports of major spills from any #oilgas in #coflood @acgapter #COGAResponds

2:11 PM - 17 Sep 2013

  4 



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<https://storify.com/KUNC/twitter-q-and-a-coga-oil-and-gas-flood-ops-and-res>

Pushback From Industry Media

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Obama EPA Debunks Activists Who Played Politics with Tragic Floods

10:10am EDT October 4, 2013

by Simon Lomax
simon@energyindepth.org, Denver, Colo.

 Tweet  Like 147  2

Comments from the U.S. Environmental Protection Agency (EPA) on the recovery and clean-up efforts following Colorado's historic floods *directly contradict* the fear mongering of environmental activists who have [played politics with this tragedy since the beginning](#).

The EPA's Oct. 3 comments are particularly noteworthy given that news outlets like the *Denver Post* and CNN were clearly misled by the activists' claims. [From Energy & Environment Publishing's EnergyWire](#) (sub req'd):

"The total reported amount of reported [oil] spills is small compared to the solid waste" that has spilled from damaged sewer lines and household chemicals from destroyed homes, said Matthew Allen, a spokesman in EPA's Region 8 office in Denver. ...

Allen said EPA did aerial surveys in the days after the floodwaters began to recede to try to locate broken oil pipelines or other infrastructure that would cause a large-scale, continuous release, and did not find any. Instead, it has mostly worked to recover gasoline tanks and propane tanks that were carried away by the floods, he said.

"What we've really seen is this kind of slow trickle of smaller spills, and all are specifically related to the flood," Allen said of the oil releases. "It wasn't user error or improper operations; it all falls in the act-of-God category." [emphasis added]

The comments from federal environmental regulators are in line with assessments from Gov. John Hickenlooper (D) and the [findings of public safety officials and experts at the state level](#). Compare the EPA's comments with the claims of activists campaigning to ban hydraulic fracturing and oil and gas development in Colorado:

Fractivist: "We have communities that are going to be inundated with all these petrochemicals and fracking fluids." (9/21/2013)

Food & Water Watch: "We're talking about tens of thousands of toxic chemicals floating down the river, potentially ending up in communities, next to homes, next to agriculture land ... We are just beginning to see the extent of the devastation ... It clearly demonstrates why these ballot initiatives are going forward to stop fracking." (9/27/2013)

East Boulder County United: "We know there is a danger of toxicology in Weld County right now." (9/16/2013)

East Boulder County United: "This is washing across agricultural land and into the waterways. Now we have to discuss what type of exposure the human population is

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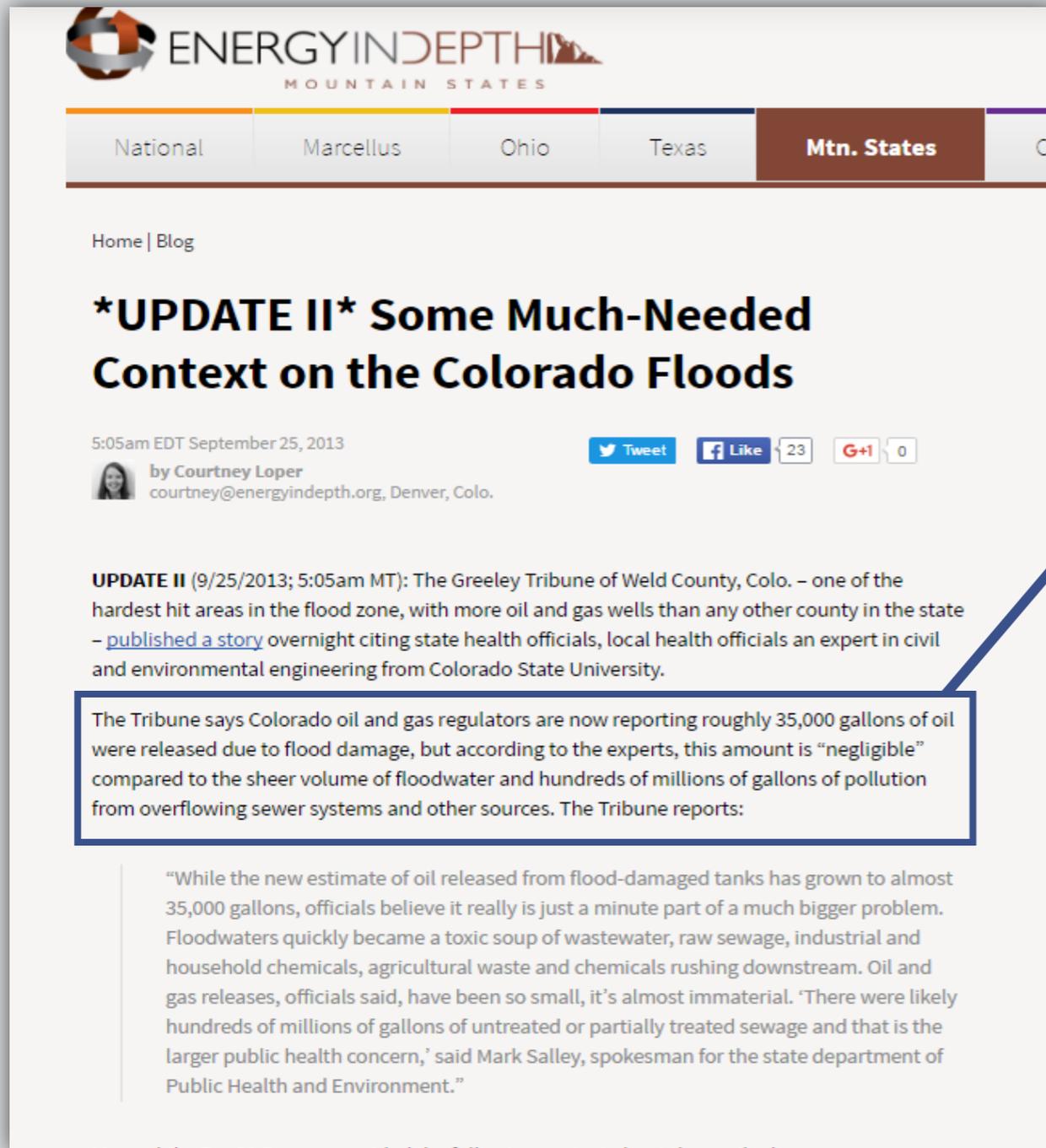
Issue in Focus:

SHALE + HEALTH



**GASLAND
DEBUNKED**

Pushback from Industry/Conservative Media



ENERGY IN DEPTH
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UPDATE II Some Much-Needed Context on the Colorado Floods

5:05am EDT September 25, 2013

by Courtney Loper
courtney@energyindepth.org, Denver, Colo.

UPDATE II (9/25/2013; 5:05am MT): The Greeley Tribune of Weld County, Colo. – one of the hardest hit areas in the flood zone, with more oil and gas wells than any other county in the state – [published a story](#) overnight citing state health officials, local health officials an expert in civil and environmental engineering from Colorado State University.

The Tribune says Colorado oil and gas regulators are now reporting roughly 35,000 gallons of oil were released due to flood damage, but according to the experts, this amount is “negligible” compared to the sheer volume of floodwater and hundreds of millions of gallons of pollution from overflowing sewer systems and other sources. The Tribune reports:

“While the new estimate of oil released from flood-damaged tanks has grown to almost 35,000 gallons, officials believe it really is just a minute part of a much bigger problem. Floodwaters quickly became a toxic soup of wastewater, raw sewage, industrial and household chemicals, agricultural waste and chemicals rushing downstream. Oil and gas releases, officials said, have been so small, it’s almost immaterial. ‘There were likely hundreds of millions of gallons of untreated or partially treated sewage and that is the larger public health concern,’ said Mark Salley, spokesman for the state department of Public Health and Environment.”

The Tribune says Colorado oil and gas regulators are now reporting roughly 35,000 gallons of oil were released due to flood damage, but according to the experts, this amount is “negligible” compared to the sheer volume of floodwater and hundreds of millions of gallons of pollution from overflowing sewer systems and other sources.

Headlines from the Colorado Observer

“Media Jumped on False Fracking Narrative in Flood Disaster”

“Anti-Fracking Activists Blasted for Hying Floods to Push Political Agenda”



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<http://energyindepth.org/mtn-states/some-much-needed-context-on-the-colorado-floods/>

Hearing from DNR

September 16: Todd Hartman from the Colorado Department of Natural Resources said the state is “aggressively assessing the impact of the flood to oil and gas facilities.” Hartman noted that many sites are currently inaccessible and responders are focusing on lives, property and roadways. “But as the situation improves and more information is available, COGCC (Colorado Oil and Gas Conservation Commission) will be working with state and local authorities, operators and the public to assess risks, and where necessary, provide environmental response and mediation,” Hartman said.

September 19: Todd Hartman, a spokesman for Colorado's department of natural resources, said inspectors were still unable to get to many of the well sites, because roads were washed out or destroyed. “You have operations that are entirely underwater,” he told reporters.

September 19: One of the biggest questions for local environmentalists has centered on how the flooding has affected the numerous hydraulic fracturing or “fracking” wells in Weld County, though the state's oil and gas regulator downplayed those concerns.

“The primary pollutant of concern associated with oil and gas locations is crude oil, which is stored in tanks on site,” Todd Hartman, a spokesman for the Colorado Oil and Gas Conservation Commission, said in a statement.

Hearing from DNR

Hartman said the agency had heard the environmentalists' concerns about the floods picking up chemicals from fracking operations, but noted that those chemicals "are only on site during the drilling and fracturing of the well and do not remain on site once the well is in production."

The "vast majority" of wells hit by floodwaters were in the producing stage," Hartman said.

He added that the operators of producing fracking wells affected by the flooding had been aggressive about securing the facilities through a process known as "shutting in," which by remote control halts the production of oil and gas.

September 20, Greeley Tribune: "In the context of this historic event, these spills are not an unexpected part of many other sources of contamination associated with the flood," said Todd Hartman, spokesman for the state Department of Natural Resources, which oversees the COGCC. "Those include very large volumes (millions of gallons) of raw, municipal sewage and other hazards associated with households, agriculture, business and industry."

Key information in period of limited facts

To best of our knowledge, as reported to us, wells in the flood zone have been shut in (similar to actions operators take during wildfires)

It appears no fracking operations were ongoing at the time of the flood

Operators are accessing sites and containing spills/damage where possible and where conditions allow

Regulators are accessing sites as soon as conditions allow

We are reporting impacts, including spills and volumes, as we learn about them.

People should avoid damaged equipment/floating tanks for their own safety.

Oil and produced water are a component of floodwaters that include a lot of unfortunate contents: feedlot runoff, ag chemicals, sewage.

Quotes from Governor Hickenlooper

“When you look at the amount of water flowing through that river, it will process these pollutants very, very rapidly,” Hickenlooper said.

“It could have been a hundred times worse,” the governor said after he toured two Anadarko Petroleum Corp. tank facilities Sunday with company crews and Matt Lepore, Director of the Colorado Oil and Gas Conservation Commission.

“Governor John Hickenlooper, during a Thursday news conference on flood recovery, said the spills “weren't excessively large.”

“The several small spills we've had have been very small relative to the huge flow of water coming through,” he said.

Communication with the Media - September 19th, 2013

Five teams of inspectors and environmental protection specialists were in the field on Wednesday, September 18. The teams were canvassing flood impacted areas in the vicinity of Coal Creek, Boulder Creek, St. Vrain, Big Thompson, and the South Platte. Today, six teams are back the field, and one COGCC staff member will be in the air with the Weld County Sheriff's Department.

As of noon today, the COGCC is tracking 10 oil releases. Two of those are notable; the remaining eight appear to be minor. Minor spills in the context of this situation would be considered spills described as sheens coming off of a piece of equipment rather than a measurable volume of petroleum product.

We reported one of those notable releases to you last night: 125 barrels from an Anadarko storage tank south of Milliken. Another Anadarko storage tank has released 323 barrels (13,566 gallons). That event occurred north of Firestone on the St. Vrain River. In both cases, it appears the oil left the site in floodwaters. Though Anadarko deployed absorbent booms in the first case, the booms collected residual oil in standing water pooled around the tanks (not water feeding into the river). In both cases, the releases were promptly reported by the operator.

In the context of this historic event, these spills are not an unexpected part of many other sources of contamination associated with the flood. Those include very large volumes (millions of gallons) of raw, municipal sewage and other hazards associated with households, agriculture, business and industry.

A typical oil storage tank holds 300 barrels, though some tanks are larger. These two releases, then, involved approximately one and one-half tanks.

In this dynamic stage, as we continue to assess the situation in the field and gather information from operators and others, we are at times dependent on characterizations from third parties.

Communication with the Media - September 23rd, 2013

The COGCC is tracking eight notable releases. Over the weekend, the agency learned of a 36 barrel release of oil at a Noble location between Evans and LaSalle and a 26 barrel release at an Anadarko location near Johnstown. At this point, COGCC has confirmed releases totaling 641 barrels, or 27,000 gallons. For context, that is equal to the oil contained in two typically sized storage tanks.

The COGCC is tracking 10 additional locations with some evidence of release of oil, such as a sheen on the water, and another 33 locations where there appears to be damage to tanks or other equipment but no obvious indication of a release. COGCC continues efforts to access all of these locations, to evaluate conditions and determine extent of releases, if any. Additional rainfall today will continue to slow efforts to reach some areas.

As of this weekend, approximately 1,300 wells remain shut-in following the flood. Some sites remain inaccessible for physical inspection, while others will require repairs ranging from minor to substantial before wells on location can return to production.

The COGCC has issued a Notice to Operators regarding start-up procedures for locations impacted by flood waters. The notice outlines a series of measures for ensuring that locations affected by the flood can be returned to operation safely.

All identified spills are required to be cleaned up, recognizing that contaminants of all kinds have been moved and dispersed with floodwaters. These conditions will create challenges in certain cases with tying impacted areas to specific parties, but operators will be accountable for cleanup when appropriate and when possible.

Communication with the Media - October 8th, 2013

The COGCC continues its assessment of the flood-impacted area. The agency has developed a formally mapped area called the “flood-impact zone,” which expands its previous assessment area. This is not due to an increase in impacted locations, but is an exercise designed to use an excess of caution in ensuring any location potentially affected receives an assessment and evaluation by COGCC personnel. The agency’s estimate of assessed area remains at approximately 80 percent. The number of well sites evaluated by COGCC inspectors is 1,355.

The agency continues to refine and update its numbers as it learns more through new information from inspectors and operators. The agency is tracking 13 notable releases of oil totaling 43,134 gallons. The agency is also tracking 17 releases of produced water, totaling 26,385 gallons. The reduction in notable releases from 15 (in our October 2 update) to 13 is the result of updated information from two locations with damaged facilities where COGCC is continuing its investigation but has not confirmed notable releases. For context, the volume of oil released is comparable to more than three, standard 300-barrel storage tanks. The amount of produced water released is more than two of such tanks.

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Produced Water

Response developed by DNR/COGCC for reporters to understand the term “produced water”:

Water tanks on production facilities hold “produced water;” which exists naturally in the hydrocarbon formation and was deposited geologically at the same time as the formation. This water is produced along with the oil and gas that comes up the well. A separator removes the water from the oil and gas, and the water phase is directed to the water storage tanks. Produced water contains small amounts of dissolved hydrocarbons because the separators are not 100% efficient. Produced water is an “exploration and production waste (E&P waste),” and must be managed, stored and disposed of in accordance with COGCC rules. “Condensate water” is neither a recognized term nor an accurate one. Condensate is a highly valuable product and operators make every effort to separate it from water rather than dispose of it.

Produced water does not contain hydraulic fracturing fluids. The hydraulic fracturing fluid is injected in the early stages of well development. That fluid then flows back before the well begins to produce oil and gas (“hence the term ‘flowback’ that you often hear as part of this discussion) and is captured in tanks, removed from the site and recycled or disposed of as E&P waste.

Oil and Gas Impacts

- 2,650 wells affected directly and indirectly by the disaster (OGCC estimate).
- 2,658 wells shut in in anticipation of floodwaters.
- About 1,150 barrels (48,250 gallons) of oil and condensate spilled.
- More than 1,035 barrels (43,478 gallons) of produced water also spilled.
- The largest single spill of oil or condensate was 323 barrels (13,566 gallons).
- The largest single spill of produced water was 125 barrels (5250 gallons).
- No single catastrophic spill - no single uncontrolled long-term release - occurred in this flood.

Source: COGCC “Lessons Learned,” March 2014

Oil and Gas Impacts

Some tanks were toppled or dislodged by flood waters. Some production equipment, such as separators or heater treaters, were moved by flood waters.

Flowing water eroded earthen foundations beneath tanks and production equipment in many circumstances.

When tanks and other equipment were moved by flood waters, attached piping twisted, broke and sometimes leaked.

Within the broader area affected directly and more indirectly by flood waters and heavy precipitation, COGCC estimates that there are more than 2650 wells.

COGCC does not have exact numbers for the production equipment and tanks associated with these wells, but there are many such locations in the flooded area.

Source: COGCC “Lessons Learned,” March 2014

Oil and Gas Impacts

No hydraulic fracturing operations were ongoing in the region flooded in September 2013. Two operators were staging equipment for hydraulic fracturing operations in the days prior to the flood, but the staged equipment was withdrawn from the area prior to the arrival of flood waters.

Just as important, no single downstream location accumulated a large quantity of spilled oil, condensate or other oil and gas materials.

For the most part, spilled liquids from oil and gas operations washed away in the flood without leaving a trace behind. These spilled materials were greatly diluted by the flood waters.

They are now undetectable. These facts are evident in samples taken after the flood in affected streams by the Colorado Department of Public Health and Environment and the United States Geological Survey.

These facts are also evident in samples taken and data analyzed by operators after flood waters receded.

Source: COGCC “Lessons Learned,” March 2014

Water vs. Oil

Putting oil and produced water releases into context:

The average historic daily flow at Julesburg from September 17 through September 23 is 461 cubic feet per second. That's a seven-day total of about 6,400 acre-feet.

The average daily flow for the same dates in 2013 is 13,232 cubic feet per second for a seven-day volume of 184,400 acre-feet. (29 times greater)

To put that into gallons - the way some media refer to oil releases - that's more than 60 billion gallons. Known releases of oil were about 48,000 gallons (0.00008%)

Another way to think about it: On September 15, calculates the Division of Water Resources, 26 billion gallons of water flowed by the gauge at Fort Morgan.

The Colorado Department of Public Health and Environment estimates that flood waters resulted in the discharge of 20 million gallons of untreated wastewater and 200 million gallons of partially treated wastewater. These releases came from sewage treatment plants affected by the storm.

The South Platte River annually carries 400,000 acre feet of water out of Colorado.

Key lessons - aka Not Rocket Science

- Stay factual
- Avoid speculation
- Provide context (when possible)
- When you confirm it, share it
- Focus on the accuracy of your information, not that of others
- If you discover a piece of information is inaccurate, correct it immediately
- Provide public updates frequently (more than once daily if situation calls for it)
- Transparency and consistent delivery of information builds trust (over time)